To: Koglin, Eric[Koglin.Eric@epa.gov]
Cc: Snyder, Emily[Snyder.Emily@epa.gov]
From: Sayles, Gregory
Sent: Fri 8/14/2015 8:02:45 PM
Subject: Re: Modeling update

Eric - just had a call with Bib and JOZ about this. I called Emily and she will check on interest. Thanks.

Gregory Sayles
EPA's Homeland Security Research
513-569-7607 desk-513-305-9984 cell

On Aug 14, 2015, at 3:41 PM, Koglin, Eric <Koglin.Eric@epa.gov> wrote:

> Greg
>
> You're right. It might be able to serve both purposes. I'm wondering though if by now the EOC hasn't been asked for this kind of support from the Regions or the Unified Command, then perhaps the Regions had their own source for the kind of information available through the EnviroAtlas team.
>
> Emily – can you find someone to check with in the EOC to see if there is any need for this mapping capability? There is a powerpoint with slides showing how different map overlays can be used.
>
> Eric
>
> **From:** Sayles, Gregory
> **Sent:** Friday, August 14, 2015 12:26 PM
> **To:** Koglin, Eric
> **Cc:** Snyder, Emily
> **Subject:** Re: Modeling update
>
> Thanks. Would the mapping though be a tool for EPA? Rather then only a communication

tool?

Gregory Sayles

EPA's Homeland Security Research

513-569-7607 desk-513-305-9984 cell

On Aug 14, 2015, at 3:18 PM, Koglin, Eric <Koglin.Eric@epa.gov> wrote:

> Greg
>
> I just tried. Anne didn't answer, but I sent her an email to see what her availability is. I just talked to Josh Krochmal. He indicated that we'd need to get EOC buy in and, in particular, the PIO. He said that the PIO is the one that had to review what he is posting now. Also, Josh indicated that he'd probably do it as a separate map because the Agency just wants the simple map with the data points on it right now.
>
> Eric
>
> **From:** Sayles, Gregory
> **Sent:** Friday, August 14, 2015 12:10 PM
> **To:** Koglin, Eric
> **Cc:** Snyder, Emily
> **Subject:** Re: Modeling update
>
> Can we hook them up today?
>
> Gregory Sayles
>
> EPA's Homeland Security Research
>
> 513-569-7607 desk-513-305-9984 cell
>
> On Aug 14, 2015, at 2:59 PM, Koglin, Eric <Koglin.Eric@epa.gov> wrote:
>
> > Greg

I guess I'm one step ahead! I sent an email to the Josh Krochmal. He's the GIS/imagery contact for the EOC. I spoke with him earlier in the week about the NASA and USGS imagery stuff. He loved the overlays and is interested in incorporating them but he says that it will have to wait until Monday. Apparently the draft map for which he shared the link earlier is going live on the EPA website very soon.

So, I think it would be good to hook Josh up with Anne Neale to get the ball rolling, but we might want to just run it by Josh in the EOC.

Eric

From: Sayles, Gregory
Sent: Friday, August 14, 2015 11:50 AM
To: Koglin, Eric; Snyder, Emily
Subject: Fwd: Modeling update

Should we offer this at the next EU mtg, have Annie on? If so, I will need to check with Bob.

Gregory Sayles

EPA's Homeland Security Research

513-569-7607 desk-513-305-9984 cell

Begin forwarded message:

> **From:** "Neale, Anne" <Neale.Anne@epa.gov>
> **To:** "Koglin, Eric" <Koglin.Eric@epa.gov>, "Sullivan, Kate" <Sullivan.Kate@epa.gov>, "Garland, Jay" <Garland.Jay@epa.gov>, "Schumacher, Brian" <Schumacher.Brian@epa.gov>, "McDonald, Michael E." <McDonald.Michael@epa.gov>, "Orme-Zavaleta, Jennifer" <Orme-Zavaleta.Jennifer@epa.gov>, "Sayles, Gregory" <Sayles.Gregory@epa.gov>, "Kavlock, Robert" <Kavlock.Robert@epa.gov>, "Burke, Thomas" <Burke.Thomas@epa.gov>,

"EOC ORD" <EOC_ORD@epa.gov>
Cc: "Mehaffey, Megan" <Mehaffey.Megan@epa.gov>, "Gillespie, Andrew" <Gillespie.Andrew@epa.gov>
Subject: RE: Modeling update

Hi All,

Jennifer asked me to send out these thoughts from an EnviroAtlas perspective. Megan Mehaffey and I looked at the GIS project link provided in Eric's earlier email. We added several EnviroAtlas maps to the project as an illustration of how you can add EnviroAtlas web services to any mapping project. Just to be clear, we do not have the authority to add anything permanently to the project and our additions were only viewable on our desktops. I have attached a few ppt slides of screen captures showing EnviroAtlas data layers within the Animas GIS project:

Domestic Water Use summarized by 12 digit HUC (i.e., medium sized drainage basin)

Agricultural Water Use summarized by 12 digit HUC

Industrial Water Use summarized by 12 digit HUC

Residential population per 30 square meters

Number of Threatened, Endangered, and Imperiled Aquatic Species

It is very easy to add our services to their application, just a matter of copying and pasting a URL. We didn't take the time to adjust the display with more meaningful classification breaks but this is easily done. We can also supply customized maps for some attributes at much finer resolutions. These are just examples, EnviroAtlas likely has other maps that may be useful depending on specific questions. Slide 5 shows a close-up of one of the 12 digit HUCS and the pop-up that will identify specific values for each HUC.

I also added a screen capture using our raindrop tool, although not useful for

this response now, it traces the general surface flow pathway of a drop of water from any point on the map to the water body it will enter, may be useful in the future.

On a separate note I was wondering whether anybody from EPA is sampling for macroinvertebrates, they may serve as an indicator of short and long-term sediment toxicity. The paper in this link describes assigning metal toxicity ratings to macroinvert genus/species (http://www.ncbi.nlm.nih.gov/pubmed/22553143). EERD folks have done lots of this kind of sampling and analysis. There may be existing macroinvert data from EMAP/NARS or possibly USGS. I read that the Mountain Studies Institute has collected pre and post-spill macroinvert data.

Please let us know if you need additional information or if we can help in any way.

Regards,

Annie

Anne Neale

EnviroAtlas Project Lead

US EPA, RTP, NC

919-541-3832

Anne Neale

EnviroAtlas Project Lead

US EPA, RTP, NC

919-541-3832

From: Koglin, Eric
Sent: Friday, August 14, 2015 10:50 AM
To: Sullivan, Kate
Cc: Garland, Jay; Schumacher, Brian; Neale, Anne; McDonald, Michael E.; Orme-Zavaleta, Jennifer; Sayles, Gregory; Kavlock, Robert; Burke, Thomas; EOC ORD
Subject: RE: Modeling update

Morning Kate

I'm working on the questions Jennifer provided yesterday.

Here's where we are…

The EOC GIS lead, Josh Krochmal (contractor) just provided everyone in the EOC with this link to an ARC GIS map he has been populating with sampling data. I am going to give him a call to see if we can get any additional maps or shape files or whatever he has beyond what's in this link.
http://epa.maps.arcgis.com/home/webmap/viewer.html?webmap=0225eaf42bb64e649f922d3
Use your EPA Enterprise LAN username and password to access the map. It clearly does not reflect where additional sampling has/is occurring.

The EPA OSC site has been updated with a new situation report (SITREP 4) and the publically available data:
http://epaosc.org/site/site_profile.aspx?site_id=11082

We have put as much pressure as we're comfortable putting on the OSWER Desk (Terry Smith) to get the sampling plan. Terry has been pressing the Unified command hard on sending it to HQ but they are focusing on implementation right now. As soon as we get it I will pass it along to you so you can see what data they are planning to collect. I think I mentioned yesterday that there was a discussion between the

ORD Desk and other EOC members about the possibility of adding some samples and/or analytes to what is being collected. We are going to have to work with whatever they are going to provide and, at least in the short term, there won't be any additions to whatever is in the sampling plan.

I think that the second and third questions will be answered when we see the sampling plan. If I were a betting man (I'm not even though I live in Las Vegas!), I'd bet that they are not focusing on radiological contaminants besides, possibly, gross alpha and beta.

Thanks again for your great work.

Eric

Eric Koglin

USEPA

NHSRC

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702-798-2332 (o)

513-288-5497 (c)

From: Orme-Zavaleta, Jennifer
Sent: Thursday, August 13, 2015 2:19 PM
To: Sayles, Gregory; Kavlock, Robert; Burke, Thomas; Koglin, Eric
Cc: Garland, Jay; Sullivan, Kate; Schumacher, Brian; Neale, Anne; McDonald, Michael E.; Orme-Zavaleta, Jennifer

Subject: Modeling update
Importance: High

Hydrologic Modeling

Focus is applying Water quality and bioaccumulation models to understand plume movement, metal chemistry at different points and where metals could precipitate out.

Currently gathering data that Eric is providing, applying multi metal chemistry information. Relying on USGS flow data to parameterize the models. Anticipate modeling outputs early to mid week next week. Will provide you tiered modeling approach tomorrow am.

Potential hotspots of sediment contamination could be where faster moving water hits slower moving water (within a mile of that interface) and where there are pH change interfaces

EnviroAtlas application

Identifying data layers to use, collecting information on water use sectors, location of imperiled species, demographic maps and potential EJ locations as well as other point discharge locations for metals along the rivers. Hope to have Atlas runs later tomorrow or early next week.

Questions:

Has the EOC established a GIS site so we know what maps they (Regions or States) are using and have available? Would help to compare with what we have or to provide information they may not have.

Is anyone looking at radiologicals? Often co-contaminants with mining wastes, especially from gold or silver operations. May be of more concern than metals themselves

How are contaminant measurements being collected? In water column only, total suspended solids, or sediments?